

ORDINANCE NO. 16-03

AN ORDINANCE RELATING TO SOURCEWATER PROTECTION

WHEREAS, Frederica residents rely on ground water as their sole source of drinking water; and

WHEREAS, clean, reliable, and safe drinking water is essential to the public health, safety and welfare to the residents of Frederica; and

WHEREAS, the protection of existing and proposed sources of water for public consumption is critical to protection of the environment and continued economic prosperity; and

WHEREAS, the State of Delaware Source Water Protection Law of 2001 requires Frederica to adopt regulations governing the use of land within wellhead protection and excellent groundwater recharge potential areas in order to protect these areas from activities and substances that may harm water quality and subtract from overall water quantity.

NOW, THEREFORE, THE COUNCIL OF THE TOWN OF FREDERICA

HEREBY ORDAINS:

Section 1. That the Frederica Code of Ordinances shall be amended by adding a new chapter to read as follows:

Chapter 350 – SOURCEWATER PROTECTION

§ 350-1. Title.

This chapter shall be known and referred to and cited as the "Source Water Protection Ordinance."

§ 350-2. Findings.

Town of Frederica residents rely exclusively on groundwater as their source of drinking water. Although the Town has adequate quantities of groundwater, small amounts of pollution may contaminate large quantities of groundwater, making it unfit for human consumption, putting our citizens at greater risk of

illness and disease, and imposing huge costs on residents and rate payers who will be called upon to finance treatment systems or to secure alternative sources of drinking water. While a number of state environmental programs regulate various types of facilities and activities that are potential sources of contamination, county and municipal governments are responsible for controlling land use that can assist in providing some long-term groundwater protection.

§ 350-3. Purpose and intent.

The purpose of this chapter is to ensure that land use activities are conducted in such a way as to minimize the impact on, and reduce the risk of contamination to, excellent groundwater recharge areas and wellhead protection areas which are the source for public drinking water in the Town of Frederica. This chapter is intended to satisfy the requirements of the Delaware Source Water Protection Law 2001 as codified in 7 Del. C. § 6082(a), (b), and (f).

§ 350-4. Excellent groundwater recharge and wellhead protection area maps.

A. Maps prepared and adopted by the Delaware Department of Natural Resources and Environmental Control delineating the excellent groundwater recharge and wellhead protection areas in the Town of Frederica are hereby adopted in accordance with 7 Del. C. § 6082(a), (b), and (f). These maps shall comprise the source water protection areas in the Town. The geographic area of the source water protection area shall be delineated in the Town's Comprehensive Plan and Official Zoning Map and is on file at Town Hall.

B. The Delaware Department of Natural Resources and Environmental Control periodically shall provide the Town of Frederica with updated excellent groundwater recharge and wellhead protection area maps, which, upon approval by the Town, shall be adopted and incorporated into this chapter.

C. The excellent groundwater recharge and wellhead protection areas must be shown on any subdivision plan and any site plan, including those required for conditional uses.

§ 350-5. Definitions.

As used in this chapter, the following terms shall have the meanings indicated:

ABOVEGROUND STORAGE TANK (AST)

A single containment vessel greater than 250 gallons as defined in the

Delaware regulations governing aboveground storage tanks. ASTs with a storage capacity greater than 12,499 gallons containing petroleum or hazardous substances, and ASTs with a storage capacity greater than 39,999 gallons containing diesels, heating fuel or kerosene, are subject to the design, construction, operation, and maintenance requirements of the Delaware AST regulations.

BEST MANAGEMENT PRACTICES

Structural, nonstructural and managerial techniques that are recognized to be the most effective and practical means to control nonpoint source pollutants yet are compatible with the productive use of the resource to which they are applied. These are used in both urban and agricultural areas.

CONTAMINATION

Any physical, chemical, biological, or radiological substance that enters the hydrologic cycle through human action and may cause a deleterious effect on groundwater resources.

ENVIRONMENTAL ASSESSMENT REPORT

A report that documents that post-development recharge will be no less than predevelopment recharge for both water quality and quantity when computed on an annual basis. At a minimum, the environmental assessment report must be prepared by a registered professional geologist, or registered professional engineer familiar with the hydrogeologic characteristics of Kent County and the Town of Frederica, and include the following elements:

- A. Site description of proposed development within the water resource protection area.
- B. Climatic water balance comparing predevelopment and post-development recharge potential for both water quantity and quality.
- C. Subsurface exploration, including borings, test pits, and infiltration tests.
- D. Design of groundwater recharge facilities that assure water quality as well as water quantity. The design shall be performed in accordance with the DNREC supplement to the Source Water Protection Guidance Manual for the Local Governments of Delaware: Groundwater Recharge Design Methodology, dated May 2005 or as later revised.
- E. Construction and maintenance considerations.

EXCELLENT GROUNDWATER RECHARGE AREAS

Those areas with a high percentage of sand and gravel that have excellent potential for recharge as determined through a stack unit mapping analysis delineated by the Delaware Geological Survey and presented in the Report of Investigations No. 66, Groundwater Recharge

Potential Mapping in Kent and Sussex Counties, Delaware, Geological Survey, 2004. Excellent groundwater recharge areas are delineated on the excellent groundwater recharge area maps described in this chapter.

GREEN TECHNOLOGY BEST MANAGEMENT PRACTICES (BMPs)

Those practices that achieve stormwater management objectives by applying the principles of filtration, infiltration and storage most often associated with natural vegetation and undisturbed soils while minimizing a reliance on structural components. They may also be constructed using an imported soil medium and planted with vegetation designed to promote the natural hydrologic process. These practices include, but are not limited to, vegetative filtration, riparian buffer plantings, bioretention areas, vegetative flow conveyance, as well as recharge and surface storage in undisturbed natural areas.

GROUNDWATER

The water contained in interconnected pores located below the water table in an unconfined aquifer or located in a confined aquifer.

HAZARDOUS WASTE

A solid waste, or combination of solid wastes, which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may cause or significantly contribute to an increase in mortality, or an increase in serious irreversible or incapacitating illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. Without limitation, included within this definition are those hazardous wastes described in Sections 261.31, 261.32, and 261.33 of the Delaware Regulations Governing Hazardous Waste.

IMPERVIOUS COVER

The sum of parking lots, roads, buildings, sidewalks, or other created surfaces through which rainwater cannot pass or infiltrate the soil.

INFILTRATION

The passage or movement of water through the soil profile.

LAND-DISTURBING ACTIVITY

A land change or construction activity for residential, commercial, industrial, and institutional land use.

LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN (LEED)

A rating system developed and administered by the U.S. Green Building Council based in Washington, D.C. It is designed to promote design and construction practices that increase profitability while reducing the negative environmental impacts of buildings and improving occupant health and well-being. The LEED rating system offers four certification

levels for new construction which includes Certified, Silver, Gold and Platinum; the levels correspond to the number of credits accrued in five green design categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources and indoor environmental quality. LEED standards cover new commercial construction and major renovation projects, interiors projects and existing building operations.

ON-SITE WASTEWATER TREATMENT AND DISPOSAL SYSTEM

Conventional or alternative wastewater treatment and disposal systems installed or proposed to be installed on land of the owner or on other land to which the owner has the legal right to install the system.

PUBLIC DRINKING WATER SYSTEM

A community, noncommunity, or nontransient noncommunity water system which provides piped water to the public for human consumption. The system must have at least 15 service connections or regularly serve at least 25 individuals daily for at least 60 days.

PUBLIC WATER SUPPLY WELL

Any well from which the water is used to serve a community water system by Section 22.146 (Public Water Systems) in the Delaware State Regulations Governing Public Drinking Water Systems.

RIPARIAN BUFFER AREA (RBA)

Any parcel of land adjacent to a perennial, lake, tidal wetland or area draining greater than 10 acres. The RBA shall include the water body and the adjacent area within at least 100 feet from the top of bank of the water body. The RBA shall also include the floodplain or nontidal wetland plus the adjacent area within a minimum of 50 feet of the resource.

RUNOFF

That portion of precipitation or snow melt that has not evaporated or infiltrated into the soil, but flows on land or impervious surfaces.

SOURCE WATER PROTECTION OVERLAY ZONE

Wellhead protection areas and excellent groundwater recharge areas.

STORMWATER

The runoff of water from the surface of the land resulting from precipitation or snow or ice melt.

STORMWATER MANAGEMENT

For water quantity control, a system of vegetative, structural, and other measures that may control the volume and rate of stormwater runoff which may be caused by land-disturbing activities or activities upon the land; and for water quality control, a system of vegetative, structural, and other measures that control adverse effects on water quality that may be caused by land-disturbing activities upon the land.

UNDERGROUND STORAGE TANK (UST)

One or a combination of tanks, including underground pipes, the volume of which is 10% or more below ground, as defined in the Delaware Regulations Governing Underground Storage Tank Systems, dated March 12, 1995. The following USTs are not subject to the design, construction, operation, and maintenance requirements of the Delaware UST regulations: residential heating fuel, agricultural, and residential motor fuel USTs less than 1,100 gallons and any UST less than 110 gallons.

WATER QUALITY

Those characteristics of stormwater runoff from an impervious surface or a land-disturbing activity that relate to the chemical, physical, biological, or radiological integrity of water.

WATER QUANTITY

A. Those characteristics of stormwater runoff that relate to the volume of stormwater runoff to downstream-gradient areas resulting from land-disturbing activities.

B. Those characteristics of stormwater that relate to the volume of stormwater that infiltrates the land surface and enters the underlying aquifer.

WELLHEAD PROTECTION AREAS

The surface and subsurface area surrounding a water well or well field supplying a public water system through which contaminants are likely to reach such well, or well field. Wellhead protection areas are delineated on the wellhead protection area maps described in this chapter.

§ 350-6. Applicability.

A. All major subdivisions, conditional use site plans, site plans, and revised subdivision or site plans received for approval or reapproval by the Planning Commission shall meet the requirements set forth herein prior to approval, except as provided in § 350-9, Exemptions, below.

B. All public drinking water well systems constructed after the effective date of this chapter are required to comply with this chapter.

C. For developments that are located partially in either a Tier 1 or Tier 2 source water protection area, only those areas in a source water protection area are required to comply with this chapter.

D. Existing developed land which is located in either a Tier 1 or Tier 2 source water protection area will be treated as a nonconforming use.

E. The uses and bulk standards which govern the underlying zoning

designations attached to the properties within the source water protection area shall apply in all instances except where uses are specifically prohibited by this section and except pertaining to impervious cover. Where issues of impervious cover are concerned, the provisions of the source water protection area are the governing provisions, overriding the existing zoning for the property.

§ 350-7. Overlay zone standards.

Notwithstanding all applicable provisions contained in the Code of the Town of Frederica and all applicable state and federal regulations, the following requirements shall apply:

A. Tier 1: surface area extending a radius of 100 feet around the wellhead.

(1) Impervious cover shall be prohibited on lands located in a Tier 1 area with the exception of buildings and access associated with the well and related treatment and distribution facilities.

(2) The natural runoff flowing into a Tier 1 area shall be allowed and all new stormwater runoff shall be diverted around the Tier 1 area.

(3) The following uses are prohibited in Tier 1 areas:

(a) On-site community wastewater treatment and disposal systems.

(b) Underground storage tanks as regulated by DNREC.

(c) Aboveground storage tanks as regulated by DNREC.

(d) Junk-, scrap or salvage yards.

(e) Mines or gravel pits.

B. Tier 2: remaining surface area of the wellhead protection area outside of Tier 1 and excellent groundwater recharge areas.

(1) New development in Tier 2 source water protection areas may not exceed gross impervious cover of 35%.

(2) New development may exceed the thirty-five-percent gross impervious cover threshold up to 50% in residential zoned districts and up to 75% in commercially zoned districts, provided that either all stormwater is treated according to green technology best management practices to remove contaminants and directed into either underground recharge systems or into permeable surfaces within the excellent groundwater recharge area or the project is LEED certified (Leadership in Energy and Environmental Design) in the sustainable sites category, and an environmental assessment report is provided. In situations where the existing impervious cover of a property is over 50% and the applicant desires to alter the property, the gross impervious cover shall be equal to or less than the original impervious cover percentage of the original site.

(3) New development may exceed the thirty-five-percent gross impervious cover threshold if the applicant demonstrates through an environmental

assessment report prepared by a registered professional geologist, or registered professional engineer familiar with the hydrogeologic characteristics of Kent County and the Town of Frederica, using climatic water budget that the post-development recharge quantity will meet or exceed the predevelopment recharge quantity.

(4) For all new construction, all structures, including residential dwellings, shall be required to discharge roof drains into underground recharge systems or into permeable surfaces. No discharge by roof drains to impervious surfaces is permitted in excellent groundwater recharge areas.

(5) The following uses are prohibited in Tier 2 source water protection areas:

(a) On-site community wastewater treatment and disposal systems.

(b) Underground storage tanks as regulated by DNREC.

(c) Chemical processing or storage facilities.

(d) Junk-, scrap or salvage yards.

(e) Mines or gravel pits.

(6) Stormwater shall be treated with best management practices that include, but are not limited to, vegetative filter strips, water quality inlets, stormwater wetlands, wet extended detention ponds, bioretention swales and sand filters to remove contaminants.

§ 350-8. Riparian buffer areas (RBA).

A. Intent. This section shall detail the requirements, allowable disturbances, and permitted construction practices within all riparian buffer areas within the Town.

B. The water body buffers shall meet the following standards which are intended to preserve and enhance existing vegetation and to revegetate disturbed areas. All riparian buffers shall be mapped to delineate the resource. No vegetation shall be removed in the RBA, and existing native vegetation shall be preserved to the maximum extent possible. An RBA shall extend a minimum of 100 feet past each top of bank for all water bodies or 50 feet past the floodplain or nontidal wetland line.(whichever is greater). All RBA areas shall be classified as old field, disturbed land, or meadow, and planted in accordance with this section where native vegetation is not present. The mapping of RBAs shall be supplied with an exploratory plan and at subsequent plan submissions to meet the standards of this section.

C. Surface water bodies.

(1)

No septic systems shall be allowed within an RBA.

(2) All developments shall maximize the drainage amount conducted in natural swales rather than storm sewers. A stormwater system's discharge to streams or

watercourses shall be by sheet flow through a grassland or discharged from a stormwater management facility having a wetland or aquatic bench.

(3) Stormwater runoff from all parking areas shall be directed to a stormwater management facility before it is discharged into an RBA.

§ 350-9. Exemptions.

The following are exempt from the requirements of this chapter:

- A. Private residential wells serving individual households.
- B. Wells used for agricultural purposes.
- C. Replacement wells.
- D. Minor subdivisions.
- E. Designated well areas in existing recorded subdivisions.
- F. Revisions to recorded subdivision plans that do not result in the creation of additional lots.
- G. Minor changes or alterations to approved site plans.
- H. Conditional use applications not requiring site plan review.
- I. Site plans exempted from review by the Planning Commission (Category B, Administrative Reviews).
- J. Subdivision and land development projects that have been submitted to the Planning Commission for concept or preliminary plan approval before the effective date of this chapter.

Section 2. Severability. The provisions of this Ordinance are severable and if any of its provisions or any sentence, clause, or paragraph shall be held unconstitutional or violate the Laws of the State of Delaware by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions.

Section 3. Effective Date. This ordinance shall become effective thirty days after adoption.

SYNOPSIS

This ordinance adopts maps prepared and adopted by the Delaware Department of Natural Resources and Environmental Control delineating the excellent groundwater recharge and wellhead protection areas in the Town of Frederica and regulations designed to protect groundwater.

Repealer: All ordinances and parts of ordinances inconsistent with the provisions of this Ordinance are hereby repealed.

Date of Effect: The Clerk shall certify to the adoption of this Ordinance

and cause the same to be published as required by law; and this Ordinance shall take effect and be in force thirty days from and after its approval by Council.

ORDAINED AND ENACTED INTO THE LAW by a majority vote of the Council Members present at a regular session of Frederica Town Council, Delaware on the 6th day of JULY, A.D. 2016.

First Reading: JUNE 1, 2016

Public Hearing and Second Reading: JULY 6, 2016

Published: _____

William C. Glanden

William C. Glanden

Mayor

I do hereby certify that the foregoing is a true and correct copy of the Ordinance passed by the Town Council at its meeting on JULY 6, 2016 at which meeting a quorum was present and voting throughout that the same is still in full force and effect.

Ra W. Fm

Clerk

Council Secretary